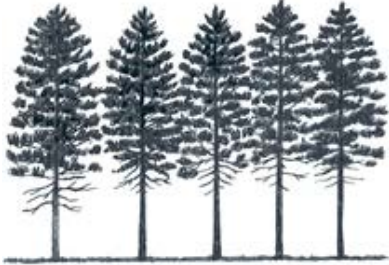



Appendix A – Silvicultural Prescription Matrix
Spruce Beetle Epidemic and Aspen Decline Management Response


Treatment objectives within the matrix are a combination of objectives for silvicultural, fuels, and wildlife programs to accomplish the identified SBEADMR purpose and need (*See Chapter 1*). During surveys for individual treatments, additional opportunities/objectives may be determined to enhance resources with the identified silvicultural treatment (example: opportunity to decrease existing soil compaction via decommission/rehabilitation of previously existing skid trails). During implementation, design features will be applied to minimize, avoid, or mitigate impacts to existing resources. See *Appendix B* for full list of design features.

Effects indicators common to each prescription are: vertical structure, horizontal cover, age-class, and species composition. These indicators will be monitored to determine effectiveness of the treatments to meet identified objectives.

Due to the need to track lynx habitat in accordance with the Southern Rockies Lynx Amendment, pertinent lynx information for each prescription is included as well.

Spruce-fir Structural Stand Conditions	Resiliency Rx		Recovery and Resiliency Rx		Recovery Rx	
	<40% overstory mortality ¹		>40% <90% overstory mortality ¹ (exceeds windthrow threshold ³)		>90% overstory mortality ¹ (exceeds windthrow threshold ³)	
	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied and <35% DHC ⁴ .	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied ² and <35% DHC ⁴ .	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied ² and <35% DHC ⁴ .
<div>Single-storied</div> <div></div>	Objectives of treatment: <ul style="list-style-type: none">• Generate and maintain multiple stories.• Maintain shade-tolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels.• WUI: Reduce potential for crown fire by reducing canopy continuity. <p>Silvicultural Rx: Initiate UAM⁴ using ITS⁴ or group selection (<3 tree length – 0.25 to 2 acre openings). Removal centered on pockets of dead and dying. Harvest approximately 15 to 25% of the stand area with small openings tree lengths). Emphasis for group placement is in pockets of dead or dying trees. Individual tree selection will be conducted as needed to remove beetle affected trees in the matrix (areas between group selection openings). If needed, mechanical site preparation will be used to promote seed germination and seedling survival. Maintain “wind firmness” by removing no more than 40% of the present stocking within the matrix. Trees with active beetle life forms in the tree will be considered for removal. Live trees, older dead trees and recently killed trees will be retained to maintain 60% of the original stocking.</p> <p>These stands generally lack understory vegetation (trees), but it may be present in isolated pockets within stands</p> <p>Minimize or avoid to the extent practicable impacts to advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger where it occurs.</p> <p>Lynx Habitat: suitable.</p> <p>SRLA⁵: Stand is not multi-storied and therefore not subject to cap restrictions.</p>		Objectives of treatment: <ul style="list-style-type: none">• Generate and maintain multiple stories.• Shift species composition toward drought-resistant, shade-intolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels.• WUI: Reduce potential for crown fire by reducing canopy continuity. <p>Silvicultural Rx: Remove all dead-dying Spruce-fir and plant where adequate seed sources are lacking – Combination of Group Select where mortality is patchy to larger CC⁴ where mortality is extensive. If needed, mechanical site preparation will be used to promote seed germination and seedling survival. Where mortality is patchy, create small openings (0.25 to 2 acres or <3 tree lengths) otherwise removal of the entire stand may be needed. In areas where the entire stand will not be removed, maintain “wind firmness” by removing no more than 40% of the present stocking within the matrix.</p> <p>These stands generally lack understory vegetation (trees), but it may be present in isolated pockets within stands</p> <p>Minimize or avoid to the extent practicable impacts to advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger where it occurs.</p> <p>Lynx Habitat: suitable.</p> <p>SRLA⁵: Stand is not multi-storied and therefore not subject to cap restrictions.</p>		Objectives: <ul style="list-style-type: none">• Generate and maintain multiple stories.• Shift species composition toward drought-resistant, shade-intolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels. <p>Silvicultural Rx: Remove majority of dead-dying spruce-fir* and plant where adequate natural seed sources are lacking. Larger CC⁴ will be used where mortality is extensive. If needed, mechanical site preparation will be used to promote seed germination and seedling survival.</p> <p>These stands generally lack understory vegetation (trees), but it may be present in isolated pockets within stands</p> <p>Minimize or avoid to the extent practicable impacts to advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: If 90% or greater of the overstory is dead or projected to be dead in two years due to high levels of beetle infestation, may be considered unsuitable lynx habitat if it lacks a live green understory (Southern Rockies Lynx Amendment Implementation Guide Page 16). The goal is to protect high quality, >35% advanced regeneration to the maximum extent practicable.</p> <p>SRLA⁵: Stand is not multi-storied and therefore not subject to cap restrictions.</p> <p>*Subject to snag retention and other applicable design features in Appendix B.</p>	

Spruce-fir Structural Stand Conditions	Resiliency Rx		Recovery and Resiliency Rx		Recovery Rx	
	<40% overstory mortality ¹		>40% <90% overstory mortality ¹ (exceeds windthrow threshold ³)		>90% overstory mortality ¹ (exceeds windthrow threshold ³)	
	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied and <35% DHC ⁴ .	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied ² and <35% DHC ⁴ .	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied ² and <35% DHC ⁴ .
<div>Two-storied</div> <div>(considered multi-storied under SRLA)</div> <div></div>	<div>Objectives:</div> <ul style="list-style-type: none">• Generate and maintain multiple stories.• Maintain shade-tolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels.• WUI: Reduce potential for crown fire by reducing canopy continuity.• Within 200’ of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels. <div>Silvicultural Rx: Initiate UAM⁴ using ITS⁴ or group selection 0.25 to 2 acre openings (<3 tree lengths). Removal of Dead and dying. Removal centered on pockets of dead and dying. Minimize or avoid to the extent practicable impacts to advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</div> <div>Lynx Habitat: suitable – high quality.</div> <div>SRLA:⁵ Track under Veg S1, S2, and S6⁵. Uneven-aged management prescription must be used and tracked under VEG S1 and S2. Incidental damage to advance regeneration is measured at 15% of the treated stand. Roads within treated units- included in incidental damage estimates from logging. Roads outside treatment units – 100% of the footprint of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density.</div>	<div>Objectives:</div> <ul style="list-style-type: none">• Generate and maintain multiple stories.• Maintain shade-tolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels.• WUI: Reduce potential for crown fire by reducing canopy continuity.• Within 200’ of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels. <div>Silvicultural Rx: Initiate UAM⁴ using ITS⁴ or group selection 0.25 to 2 acre openings (< 3 tree lengths). Removal of Dead and dying. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</div> <div>Lynx Habitat: suitable. Incidental damage must be addressed in the Biological Assessment but is not tracked under VEG S6.⁵</div> <div>SRLA: Track under Veg S1 and S2. Uneven-aged management prescription must be used and tracked under VEG S1 and S2. Incidental damage to advance regeneration is measured at 15% of the treated stand. Roads within treated units- included in incidental damage estimates from logging. Roads outside treatment units – 100% of the footprint of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</div>	<div>Objectives:</div> <ul style="list-style-type: none">• Generate and maintain multiple stories.• Maintain shade-tolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels.• WUI: Reduce potential for crown fire by reducing canopy continuity.• Within 200’ of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels <div>Silvicultural Rx: Overstory removal (salvage) of dead and dying. Where mortality is lower, use un-even-aged management prescriptions- patch cuts 0.25 to 2 acres openings (< 3 tree lengths) or individual tree selection centered on pockets of dead and dying. Removal may be more extensive where mortality is high. Live trees that pose a blow down risk may also be removed. Maintain “wind firmness” by not removing more than 40% of the present stocking within a residual stand. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</div> <div>Lynx Habitat: suitable – high quality.</div> <div>SRLA: If uneven-aged management prescription is used – track under VEG S1 and S2⁵. Incidental damage to advanced regeneration is measured at 35% of treated stand. Salvage or uneven-aged management prescription – track under VEG S1, S2 and S6.</div> <div>Incidental damage to advanced regeneration is measured at 20% of treated stand. Roads within treatment units are included in incidental damage from logging. Roads outside treatment unit – 100% of the foot-print of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. Acres tracked under VEG S1, S2 and S6⁵. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</div>	<div>Objectives:</div> <ul style="list-style-type: none">• Generate and maintain multiple stories.• Shift species composition toward drought-resistant, shade-intolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels.• WUI: Reduce potential for crown fire by reducing canopy continuity.• Within 200’ of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels <div>Silvicultural Rx: Overstory removal (salvage) of dead and dying. Where mortality is lower, use uneven-aged management prescriptions- patch cuts 0.25 to 2 acres openings (< 3 tree lengths) or individual tree selection centered on pockets of dead and dying. Removal may be more extensive where mortality is high. Live trees that pose a blow down risk may also be removed. Maintain “wind firmness” by not removing more than 40% of the present stocking within a residual stand. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</div> <div>Lynx Habitat: suitable - incidental damage must be addressed in the Biological Assessment but is not tracked under VEG S6.</div> <div>SRLA: Uneven-aged management prescription – track under VEG S1 and S2⁵. Incidental damage to advanced regeneration is measured at 20% of treated stand. Salvage or even-aged management prescription – track under VEG S1and S2. When an uneven-aged Rx is used, incidental damage to advanced regeneration is measured at 35% of treated stand. Roads within treatment units are included in incidental damage from logging. Roads outside treatment unit – 100% of the foot-print of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</div>	<div>Objectives:</div> <ul style="list-style-type: none">• Generate and maintain multiple stories.• Maintain shade-tolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels. <div>Silvicultural Rx: Stand no longer considered two-story due to dead overstory. Overstory removal (salvage) of dead and dying. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</div> <div>Lynx Habitat: Depends upon understory characteristics – if it provides suitable habitat for hares then it is considered suitable.</div> <div>SRLA: Incidental damage to advanced regeneration is tracked under VEG S1 and S2. VEG S6⁵ does not apply when >90% of overstory is dead or dying. Where a live understory over average snow depth is present, incidental damage to habitat is estimated to be 25% of treated acres and 100% of new roads if they do not transverse a treatment unit.</div>	<div>Objectives:</div> <ul style="list-style-type: none">• Generate and maintain multiple stories.• Shift species composition toward drought-resistant, shade-intolerant species.• WUI: Decrease potential surface fire intensity via reduced surface fuels. <div>Silvicultural Rx: Stand no longer considered two-story due to dead overstory. Overstory removal (salvage) of dead and dying. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</div> <div>Lynx Habitat: Depends upon understory characteristics – if it provides suitable habitat for hares then it is considered suitable.</div> <div>SRLA: Incidental damage to advanced regeneration is tracked under VEG S1 and S2. VEG S6⁵ does not apply when >90% of overstory is dead or dying. Where a live understory over average snow depth is present, incidental damage to habitat is estimated to be 25% of treated acres and 100% of new roads if they do not transverse a treatment unit.</div>

Spruce-fir Structural Stand Conditions	Resiliency Rx		Recovery and Resiliency Rx		Recovery Rx	
	<40% overstory mortality ¹		>40% <90% overstory mortality ¹ (exceeds windthrow threshold ³)		>90% overstory mortality ¹ (exceeds windthrow threshold ³)	
	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied and <35% DHC ⁴ .	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied ² and <35% DHC ⁴ .	Stand multi-storied ² and averages ≥35% DHC ⁴ and advanced regeneration are above mean snow depth.	Stand is multi-storied ² and <35% DHC ⁴ .
<p>Multiple canopy layers – three or more</p> 	<p>Objectives:</p> <ul style="list-style-type: none"> Generate and maintain multiple stories. Maintain shade-tolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. WUI: Reduce potential for crown fire by reducing canopy continuity. <p>Within 200' of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels.</p> <p>Silvicultural Rx: Initiate UAM⁴ using ITS or group selection patch cuts 0.25 to 2 acre openings (<3 tree lengths). Removal centered on pockets of dead and dying. Minimize or avoid to the extent practicable impacts to advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: Suitable – high quality</p> <p>SRLA: Track under Veg S1, S2 and S6⁵. Uneven-aged management prescription must be used and tracked under VEG S1 and S2. Incidental damage to advance regeneration is measured at 15% of the treated stand. Roads within treated units- included in incidental damage estimates from logging. Roads outside treatment units – 100% of the footprint of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</p>	<p>Objectives:</p> <ul style="list-style-type: none"> Generate and maintain multiple stories. Maintain shade-tolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. WUI: Reduce potential for crown fire by reducing canopy continuity. <p>Within 200' of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels.</p> <p>Silvicultural Rx: Initiate UAM using ITS⁴ or group selection patch cuts 0.25 to 2 acre openings (< 3 tree lengths). Removal centered on pockets of dead and dying. Minimize or avoid to the extent practicable impacts to advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: Suitable– incidental damage must be addressed in the Biological Assessment but is not tracked under VEG S6⁵.</p> <p>SRLA: Track under Veg S1 and S2. Uneven-aged management prescription must be used and tracked under VEG S1 and S2. Incidental damage to advance regeneration is measured at 15% of the treated stand. Roads within treated units- included in incidental damage estimates from logging. Roads outside treatment units – 100% of the footprint of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. Road acres tracked under VEG S1, S2. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</p>	<p>Objectives:</p> <ul style="list-style-type: none"> Generate and maintain multiple stories. Maintain shade-tolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. WUI: Reduce potential for crown fire by reducing canopy continuity. <p>Within 200' of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels.</p> <p>Silvicultural Rx: If two canopies remain alive the stand is still considered multi-storied. Overstory removal (salvage) of dead and dying. Where mortality is lower, use un-even-aged management prescriptions – patch 0.25 to 2 acre openings (<3 tree lengths) or individual tree selection centered on pockets of dead and dying. Removal may be more extensive where mortality is high. Live trees that pose a blow down risk may also be removed. Maintain “wind firmness” by not removing more than 40% of the present stocking within a residual stand. Minimize or avoid t the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: Suitable – high quality.</p> <p>SRLA: Uneven-aged management prescription – track under VEG S1 and S2⁵. Incidental damage to advanced regeneration is measured at 20% of treated stand. Salvage or even-aged management prescription – track under VEG S1, S2 and S6. Incidental damage to advanced regeneration is measured at 20% of treated stand. Roads within treatment units are included in incidental damage from logging. Roads outside treatment unit – 100% of the foot-print of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. Road acres tracked under VEG S1, S2. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</p>	<p>Objectives:</p> <ul style="list-style-type: none"> Generate and maintain multiple stories. Shift species composition toward drought-resistant, shade-intolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. WUI: Reduce potential for crown fire by reducing canopy continuity. <p>Within 200' of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels.</p> <p>Silvicultural Rx: If two canopy remains alive the stand is still considered multi-storied. Overstory removal (salvage) of dead and dying. Where mortality is lower, use un-even-aged management prescriptions- patch cuts 0.25 to 2 acre openings (<3 tree lengths) or individual tree selection centered on pockets of dead and dying. Removal may be more extensive where mortality is high. Live trees that pose a blow down risk may also be removed. Maintain “wind firmness” by not removing more than 40% of the present stocking within a residual stand. Minimize or avoid t the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: Suitable - incidental damage must be addressed in the Biological Assessment but is not tracked under VEG S6⁵.</p> <p>SRLA: Uneven-aged management prescription – track under VEG S1 and S2. Incidental damage to advanced regeneration is measured at 20% of treated stand. Salvage or even-aged management prescription – track under VEG S1and S2⁵. When even-aged Rx is used, incidental damage to advanced regeneration is measured at 20% of treated stand. Roads within treatment units are included in incidental damage from logging. Roads outside treatment unit – 100% of the foot-print of the road will be converted to stand initiation structural stage (SISS) – lynx habitat in an unsuitable condition. Acres tracked under VEG S1 and S2⁵. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</p>	<p>Objectives:</p> <ul style="list-style-type: none"> Generate and maintain multiple stories. Maintain shade-tolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. Within 200' of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels. <p>Silvicultural Rx: If two canopy remains alive the stand is still considered multi-storied. Overstory removal (salvage) of dead and dying. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: depends upon understory characteristics – if it provides suitable habitat for hares then it is considered suitable.</p> <p>SRLA: Incidental damage to advanced regeneration is tracked under VEG S1 and S2. VEG S6⁵ does not apply when >90% of overstory is dead or dying.</p> <p>Where a live understory over average snow depth is present, incidental damage to habitat is estimated to be 25% of treated acres and 100% of new roads if they do not transverse a treatment unit. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</p> <p>Note: If the stand has at two or more living layers the Veg S6 standard still applies. This will be determined at the project-level.</p>	<p>Objectives:</p> <ul style="list-style-type: none"> Generate and maintain multiple stories. Shift species composition toward drought-resistant, shade-intolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. Within 200' of infrastructure in WUI reduce potential for crown fire and ember sources by reducing ladder fuels. <p>Silvicultural Rx: If two canopy remains alive the stand is still considered multi-storied. Overstory removal (salvage) of dead and dying. Minimize or avoid to the maximum extent practicable impacts to live advanced regeneration during layout and operations. Focus on protecting high quality advanced regeneration (>35% DHC) in blocks of 0.3 acres or larger.</p> <p>Lynx Habitat: depends upon understory characteristics – if it provides suitable habitat for hares then it is considered suitable.</p> <p>SRLA: Incidental damage to advanced regeneration is tracked under VEG S1 and S2⁵. VEG S6⁵ does not apply when >90% of overstory is dead or dying. Where a live understory over average snow depth is present, incidental damage to habitat is estimated to be 25% of treated acres and 100% of new roads if they do not transverse a treatment unit. WUI treatments will be tracked under VEG S5 since they are intended to reduce seedling/sapling density</p> <p>Note: If the stand has at two or more living layers the Veg S6 standard still applies. This will be determined at the project-level.</p>

¹ Percent overstory mortality – amount of overstory trees (all species) that are dead or dying. Trees that are infected by beetles (bark colored boring dust in bark crevices and around base of standing trees) and are expected to die within 2 years will be considered dead or dying.

² Multi-storied spruce-fir – the SRLA amendment defines as at least two layers of live vegetation layers combined with an overstory that provides at least 40% live canopy (mature overstory) closure.

³ Removal and/or mortality of approximately ≥40% live stand overstory increases likelihood for windthrow in remaining stand overstory.



⁴ Definitions: DHC = dense horizontal cover, D&D = dead & dying, ITS = individual tree selection, UAM = uneven-aged management, CC = clear-cut.



⁵ SRLA = Southern Rockies Lynx Amendment, VEG S1 = standard that applies to vegetation management treatments that regenerate forested lands (Attachment 1-2 of the SRLA Record of Decision), VEG S2 = standard that applies to timber management projects that regenerate forests except for fuel treatment projects in WUI (Attachment 1-3 SRLA Record of Decision) , VEG S6 = standard that applies to all vegetation management projects within multi-story mature to late successional conifer forests (Attachment 1-4 of the SRLA Record of Decision).

Uneven-aged Vegetation Management

Uneven-aged management is recognized as a proactive approach to mimic natural gap dynamics that maintain or encourage multi-story attributes while accomplishing other resource management objectives. Gaps are created naturally in the canopy of stands from small bug infestations, diseases, blowdown pockets of trees, and other natural influences.

The general principle of uneven-aged vegetation management, as identified in Exception 4 in VEG S6, is the small group selections that consist of small forest openings (approximately 1-2 acres in size) in which the openings created by group selection will not exceed 20 percent of a stand in a single entry, but individual tree selection can occur throughout an entire stand or between the groups. Therefore, uneven-aged treatments will approximate natural succession and disturbance processes while maintaining and providing habitat conditions that support lynx and snowshoe hare through time in both the stand initiation structural stage and in mature, multi-story conifer vegetation (VEG O1 and O2). Additionally, uneven-aged treatments will be focused in areas that have the potential to improve winter snowshoe hare habitat but presently have poorly-developed understories that lack dense horizontal cover (VEG O4).

Structural Stand Conditions	Objectives	Suckering Potential High	Suckering Potential Low	SRLA Vegetation Management Direction	Detailed Prescription
Aspen					
<p>Aspen without SAD or <50% SAD</p> <p><i>(Aspen without SAD lesser priority for regeneration objectives)</i></p> 	<ul style="list-style-type: none"> ➤ Stimulate robust sprouting of aspen and create a younger stand more resilient to SAD. The goal is to mimic natural disturbance patterns resulting from a stand replacing event. ➤ WUI: Decrease potential surface fire intensity via reduced surface fuels 	<ul style="list-style-type: none"> ➤ Coppice harvest cut if tree defect is low to high. ➤ Can be prescribe burned if harvest cut site access is limited, however these sites are unlikely to support broadcast burns unless there is a moderate fine fuel component. 	<p>No Treatment</p>	<p>If mapped as secondary habitat (within 300m of primary spruce-fir habitat) impacts must be addressed in the BA. SRLA does not limit regeneration harvest prescriptions in aspen.</p>	<p>Remove all live aspen trees from the stand to trigger sprouting (coppice) to re-establish pure stand of aspen growing in open conditions. Make units large or have multiple smaller units in the same general area to minimize effect of browsing from wild ungulates and domestic livestock. If additional protection from browsing is needed, consider fencing or leaving slash in place that is not near infrastructure. Pile or broadcast burning to reduce residual slash</p> <p>Broadcast burning in these types of stands to remove some overstory trees and stimulate regeneration, though not feasible in every situation, is still a viable treatment in stands where fine fuel such as grass, leaf litter, and brush, are present, particularly in the fall when vegetation is curing. These stands are not a priority for broadcast burning but stand-specific opportunities do exist and should be utilized.</p>
<p>Aspen with >50% SAD</p> 	<ul style="list-style-type: none"> ♣ Stands in WUI: if site conditions indicate potential for treatment success, there is long -term value in trying to maintain some aspen on the landscape to reduce fire risk to the adjacent WUI. ♣ Stands outside WUI: Defer treatment. 	<p>Research has indicated that treatments in aspen with >50% overstory mortality are generally not effective at promoting regeneration, so treatment-specific prescription would be based on additional information indicating a likelihood of treatment success.</p>	<ul style="list-style-type: none"> ➤ Defer & allow stand to follow natural successional pathway of sparse aspen/shrub field. ➤ Intensive management by planting a site-adapted conifer species may be an option. 	<p>If mapped as secondary habitat (within 300m of primary spruce-fir habitat) impacts must be addressed in the BA. SRLA does not limit regeneration harvest prescriptions in aspen.</p>	<p>Research has indicated that treatments in aspen with >50% overstory mortality are generally not effective at promoting regeneration so treatment-specific prescription would be based on additional information indicating a likelihood of treatment success.</p>

Structural Stand Conditions	Objectives	Suckering Potential High	Suckering Potential Low	SRLA Vegetation Management Direction	Detailed Prescription
<p>Aspen overstory and Spruce-fir understory</p> 	<p>< 50% SAD - Stimulate robust sprouting of aspen and create an even-aged stand structure. The goal is to mimic natural disturbance patterns resulting from a stand-replacing event.</p> <p>>50% SAD –</p> <ul style="list-style-type: none"> Stands in WUI: if site conditions indicate potential for treatment success, there is long -term value in trying to maintain some aspen on the landscape to reduce fire risk to the adjacent WUI. Stands outside WUI: Defer treatment, allowing spruce-fir and other conifers to establish dominance within the stand. 	<p>Mature aspen stand w/<50% SAD</p> <ul style="list-style-type: none"> Coppice harvest cut if defect low to high Use broadcast burning to stimulate additional aspen when appropriate Remove fir and aspen components to stimulate additional aspen WUI: Decrease potential surface fire intensity via reduced surface fuels <p>Young healthy aspen stand w/<50% SAD</p> <ul style="list-style-type: none"> Selective removal of fir component WUI: As necessary pile/burn the removed spruce/fir components to maintain low potential surface fire intensity 	<ul style="list-style-type: none"> Defer aspen cut and allow stand to succeed to a Spruce-fir dominated stand. 	<p>If mapped as secondary habitat (within 300m of primary spruce-fir habitat) impacts must be addressed in the BA. SRLA does not limit regeneration harvest prescription in aspen.</p> <p>If the spruce-fir component in the stand creates a multi-storied condition then the level of harvest must be tracked under Veg S5.</p>	<p>Mature aspen stand w/<50% SAD - Remove all live aspen trees from the stand to trigger sprouting (coppice) and re-establish pure stand of aspen growing in open conditions. Make units large enough in size (30-50 acres) or have multiple smaller units in the same general area to minimize effect of browsing from wild ungulates and domestic livestock. If additional protection from browsing is needed, consider fencing or leaving slash in place that is not near infrastructure.</p> <p>Young healthy aspen stand w/<50% SAD – Selective removal of spruce-fir to set back successional processes in the stand. Goal is to enhance aspen in treated stands. In areas where spruce-fir component is abundant and multi-storied, consider letting it succeed to a conifer-dominated stand to benefit Canada lynx.</p> <p>Prescribed fire – Utilize as needed to encourage aspen regeneration; low priority for broadcast burning. Broadcast burning these types of stands will be more difficult to accomplish than burning stands with aspen and dry mixed conifer or stands of ponderosa pine with aspen. Fires occurring in stands with spruce-fir can be stand-replacing and/or difficult to manage/control.</p>
Mixed conifer with aspen					
 <p>Mixed conifer with aspen component. Plurality of species cover is Englemann spruce with aspen. Other conifer species including sub-alpine fir, Douglas-fir, blue spruce, white fir, lodgepole pine and Ponderosa pine may also exist within the stand.</p>	<p>Objectives:</p> <ul style="list-style-type: none"> Shift species composition toward drought-resistant, shade-intolerant species. WUI: Decrease potential surface fire intensity via reduced surface fuels. WUI: Reduce potential for crown fire by reducing canopy continuity. WUI: Stimulate aspen regeneration to reduce potential fire intensity 	<p>Coppice treatment to remove tree species in patches within the entire stand.</p> <p>Pile burn as needed to reduce fuels, provide areas for regeneration and as directed by design features. Broadcast burn in and around mixed conifer stands with an aspen component depending on site conditions.</p>	<p>Remove spruce-fir / conifer and allow stand to succeed to aspen-dominated stand.</p> <p>Pile burn as needed to reduce fuels, provide areas for regeneration and as directed by design features. Broadcast burn in and around mixed conifer stands with an aspen component depending on site conditions.</p>	<p>Depends upon on-the-ground conditions (e.g. multi-storied, live under-story above average snow depth, etc.). Harvest possibly tracked under VEG S1, S2 and / or VEG S6..</p>	<p>Remove spruce and fir to favor shade-intolerant conifer species and aspen.</p> <p>Prescribed fire- Utilize pile burning and broadcast burning. Prescribe burn unit treatment area could be larger than the target stand in order to utilize adequate fire control lines – roads, trails, natural fuel breaks and constructed fire lines.</p>